



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND**  
**INTERFERENCES**

In re Application of  
MIROSLAV TRAJKOVIC.

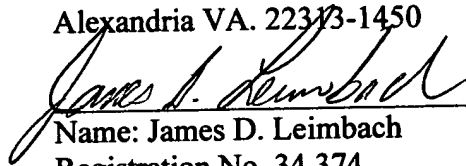
MOTION-BASED TRACKING  
WITH PAN-TILT-ZOOM  
CAMERA

Serial No. 09/854,119

Filed: May 11, 2001

Group Art Unit: 2672  
Examiner JAVID A. AMINI

I hereby certify that this correspondence  
is being deposited today with the  
United States Postal Services as first  
class mail in an envelope addressed to:  
Mail Stop Appeal Brief-Patent  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA. 22313-1450

  
Name: James D. Leimbach

Registration No. 34,374

Date: June 18, 2005

Mail Stop Appeal Brief-Patent  
Honorable Commissioner of Patents and Trademarks  
Alexandria VA. 22313-1450

**REPLY BRIEF UNDER 37 C.F.R. § 41.41**

Sir:

This correspondence contains a Reply Brief under 37 C.F.R. §41.41 in response to the Examiner's  
Answer mailed April 19, 2005.

Serial No. 09/854,119

**REPLY BRIEF UNDER 37 C.F.R. § 41.41**

**The rejection under 35 U.S.C. S 103(a)**

Appealed claims 1 through 20 stand rejected under the provisions of 35 U.S.C. §103 (a) as being obvious over *Gupta et al.* (U.S. Patent No. 5,848,121) in view of *Frazier et al.* (U.S. Patent No. 5,651,075). The examiner's position is that it would have been obvious for one of ordinary skill within the art to apply the edge enhancement and shadow reduction as taught by *Frazier et al.* to align the images for digital subtraction angiography taught by *Gupta et al.*

**Appealed claim 1**

In response to the appellant's argument that *Gupta et al.* do not teach determining a alignment approximation based on distances between one or more points in the first and second image, the Examiner's Answer on page 3 contends that the mask image and the opacified image are "theoretically" similar to the first and second image as defined by appealed claim 1. The Examiner's Answer on page 3 further contends that a lowest resolution and a highest resolution as taught by *Gupta et al.* are "theoretically" similar to the first alignment and the second alignment as defined by appealed claim 1. The examiner's position is that *Gupta et al.* at col. 3, lines 44-62 teach the above discussed subject matter.

The appellant, respectfully, asserts that the arguments presented by the rejections and Examiner's Answer to appealed claim1 do not address all the words, or the entire subject matter, as defined by appealed claim 1. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The appellant would like to respectfully, points out that *Gupta et al.* at col. 3, lines 44-62 is describing a matching process that operates via implementation of a transformation. The transformation process is described on col. 3, lines 1-19. In the transformation process, match points are already generated using a match-point computation method. The match points in the mask image and the corresponding match points in the opacified image are used to create the transformation. The matching process described at col. 3, lines 44-62 *Gupta et al.* implements

the transformation described on col. 3, lines 1-19. The Examiner's Answer contends that *Gupta et al.* teaches the subject matter defined by appealed claims 1.

Appealed claim 1 defines subject matter determining a first alignment approximation based on distances between points in the first image and the second image at a first resolution and aligning the second image to the first image, based on the first alignment approximation, to form an initially aligned second image. The Examiner's Answer on page 5 states that *Gupta et al.* at col. 4, lines 44-46 teach alignment approximation based on distances between one or more points. The appellant, respectfully, points out that *Gupta et al.* at col. 4, lines 41-46 clearly states that each pixel in the mask image is transformed by the displacements given by interpolation to find the location of the corresponding pixel in the opacified image. The appellant respectfully submits that *Gupta et al.* at col. 4, lines 41-46 pertains to interpolation and not determining a first alignment approximation based on distances between points in the mask image and the opacified image. *Gupta et al.* make no mention of distance between points in the images. Furthermore, *Gupta et al.* do not align images to form an initially aligned second image. *Gupta et al.* uses match point generation to create a transformation process.

Appealed claim 1 further defines subject matter for determining a second alignment approximation based on the distances between points in first image and the initially aligned second image with the images at a second resolution that is different from the first resolution. In the rejection (as stated in the Office Action mailed November 21, 2003, Paper No. 7) the mask image of *Gupta et al.* is applied against the recitation of first image within appealed claim 1. *Gupta et al.* do not determine a second alignment approximation, but instead use the above described transformation process. Furthermore, *Gupta et al.* do not determine a second alignment approximation based on distances between points in the images.

Appealed claim 1 further defines subject matter for and aligning the second image to the first image based on the combination of the first and second alignment approximations. The Examiner's Answer on the top of page 4 admits that *Gupta et al.* do not teach a first and second alignment. The examiner's position is the *Gupta et al.* teach sub-pixel registration of the mask image and the opacified image by match point generation, locally-adaptive image-to-image warp generation and log subtraction for generating a DSA image. The appellant, respectfully points out that appealed claim 1 does not define subject matter for locally-adaptive image-to-image warp generation and log subtraction for generating a DSA image.

It should be noted that the rejection to appealed claim 1 in the Final Office Action and the Examiner's Answer make no assertion that the final step for aligning the second image to the first image based on the combination of the first and second alignment approximations is found within *Gupta et al.*

The Examiner's Answer on bottom page 4 reiterates the position expressed in the Final Office Action that *Frazier et al.* teach aligning different images. The examiner asserts that *Frazier et al.* teach the combining the image of 4a with the higher resolution picture of 4b resulting in a still higher resolution image as shown in 4c. The appellant respectfully draws attention to the BRIEF DESCRIPTION OF THE DRAWINGS on col. 2, lines 60-67 of *Frazier et al.*, wherein it is clearly stated the image of 4a is the result of a Laplacian operation to the image of Fig. 2, the image of 4b is an enlargement of the license plate portion containing a shadow, and the image of 4c is the result of a Laplacian operation to the image of 4b. The description on col. 5, lines 9-13 and 38-42 of *Frazier et al.* clearly supports the description to Figures 4a-4c given within the BRIEF DESCRIPTION OF THE DRAWINGS. *Frazier et al.* clearly describes Figures 4a-4c as performing sequential operations on images using Laplacian operators and does not provide any disclosure or suggestion that any of the resulting images are at different resolutions. *Frazier et al.* pertains to performing operations on the image of a license plate to find peaks within the processed image and align those peaks with an idealized edge template (see col. 2, lines 27-37). There is no disclosure or suggestion within *Frazier et al.* for determining a second alignment approximations based upon the distances between points with a first image and an initially aligned second image with the images at a second resolution different from the first resolution used for the first alignment approximation. Furthermore, *Frazier et al.* provide no disclosure or suggestion for aligning the second image to the first image based on the combination of the first and second alignment approximations.

The Examiner's Answer on the page 5 states that *Gupta et al.* do not specify a combination of the first and the second alignment as defined by appealed claim 1. The examiner states that *Gupta et al.* generates a digital substation angiography by combining the opacified mask image. It should be noted that neither the opacified nor the mask image is equivalent to a first or a second alignment. Therefore, *Gupta et al.* clearly does not disclose or suggest a combination of the first and the second alignment as defined by appealed claim 1. Neither does

*Frazier et al.* disclose or suggest a combination of the first and the second alignment as defined by appealed claim 1. Accordingly, the rejection of appealed claims 1 should be reversed.

The Examiner's Answer on the top of page 6 states that the Laplacian is a great tool for an image with pixel intensity values and also considers a function  $U(x, y)$  where  $x$  and  $y$  are spatial variables. The appellant, respectfully, asserts that the attempt in the Examiner's Answer to employ this argument (a function  $U(x, y)$  where  $x$  and  $y$  are spatial variables) constitutes a new rejection. There is no record of any rejection using this argument until presented here in the Examiner's Answer. The appellant, respectfully, points out that while a new ground of rejection permitted in an Examiner's Answer mailed on or after September 13, 2004 (§37 CFR 41.39(a)(2)), any new ground of rejection made in an Examiner's Answer must be by a Technology Center Director or designee; and prominently identified (*e.g.*, a separate heading with all capitalized letters) in the following sections of the answer: Grounds of Rejection to be Reviewed on Appeal section; and Grounds of Rejection section. Therefore, the usage of the argument that Laplacian is a great tool great tool for an image and also a function  $U(x, y)$  where  $x$  and  $y$  are spatial variables within the Examiner's Answer should not be considered because they have not been properly introduced as a rejection at any point during the prosecution of the present application for invention. Furthermore, there is no reference to any portion of *Frazier et al.* or any other prior art reference to substantiate this argument, therefore, this argument appears to be hearsay and conjecture on the part of the examiner; which accordingly should be given no weight.

The Examiner's Answer in the middle of page 6 states that *Gupta et al.* show the limitations of the claimed invention. As previously discussed, *Gupta et al.* do not show all the subject matter defined by the present invention and the previously discussed comments made by the examiner in the Examiner's Answer have admitted as much. The Examiner's Answer states that *Frazier et al.*, in Figures 5a-5c illustrate a combination of three images to locate a plate. The appellant, respectfully, asserts that the Examiner's Answer is apparently attempting to insert a new rejection using Figures 5a-5c of *Frazier et al.* The appellant, respectfully, points out that while a new ground of rejection permitted in an Examiner's Answer mailed on or after September 13, 2004 (§37 CFR 41.39(a)(2)), any new ground of rejection made in an Examiner's Answer must be by a Technology Center Director or designee; and prominently identified (*e.g.*, a separate heading with all capitalized letters) in the following sections of the answer: Grounds

of Rejection to be Reviewed on Appeal section; and Grounds of Rejection section. Therefore, the usage of Figures 5a-5c within *Frazier et al.* as a combination of three images to locate a plate within the Examiner's Answer should not be considered because it constitutes a new rejection that has not been properly introduced as a rejection at any point during the prosecution of the present application for invention. The appellant, respectfully, points out that Figures 5a-5c of *Frazier et al.* were previously employed in a rejection to appealed claim 6 (see Final Office Action mailed May 5, 2004, Paper No. 9, page 8), however, Figures 5a-5c of *Frazier et al.* have not been used in rejecting the subject matter defined by appealed claim 1. Moreover, Figures 5a-5c of *Frazier et al.* have not been used to read on the subject matter for "aligning the second image to the first image based on the combination of the first and second alignment approximations" defined by appealed claim 1. However, since Figures 5a-5c of *Frazier et al.* have been previously cited (although for another reason), the appellant feels compelled to respond to the assertions contained in the Examiner's Answer. It appears that the Examiner's Answer is attempting to use Figures 5a-5c of *Frazier et al.* to inferentially read upon the subject matter defined by appealed claim 1 for "aligning the second image to the first image based on the combination of the first and second alignment approximations." The appellant, respectfully, points out that *Frazier et al.* do not provide and disclosure or suggestion for "aligning the second image to the first image based on the combination of the first and second alignment approximations" either in Figures 4a-4c (as stated in the rejection to appealed claimed 1) or in Figures 5a-5c (as inferred by the Examiner's Answer as discussed above). Figures 5a-5c of *Frazier et al.* illustrate that manner for locating the license plate within the image created by Fig. 4a (see col. 5, lines 38-43). There appellant, respectfully, asserts that Figures 5a-5c of *Frazier et al.* provide the plate location and therefore could reasonably be considered an alignment. The edge enhancement that is shown in Figures 4a-4c of *Frazier et al.*, and the discussion related thereto, do not provide any subject matter that could reasonably be considered an alignment. Therefore, *Frazier et al.* do not provide the element for "aligning the second image to the first image based on the combination of the first and second alignment approximations." The examiner has admitted that the *Gupta et al.* do not provide the subject matter for "aligning the second image to the first image based on the combination of the first and second alignment approximations". Accordingly, the subject matter defined appealed claim 1 is not found in the cited references.

The appellant, respectfully, submits that in view of the foregoing discussion, that there is no reasonable expectation of success to attempt to implement the edge enhancement and shadow reduction of *Frazier et al.* to attempt to align images. The rejection to appealed claim 1 has failed to show how the edge enhancement and shadow reduction of *Frazier et al.* could reasonably be construed as alignment of two images. Simply put, enhancing an image is not aligning a first image with a second image. Edge enhancement and shadow reduction as taught *Frazier et al.* performs actions on a single image to create a modified version of that image. There is no alignment with another image.

The Examiner's Answer in the bottom of page 6 and proceeding to page 7 responds to appellant's arguments that edge enhancement or shadow reduction is not equivalent to alignment. The argument present by the Examiner's Answer asserts that the specification to the present application for invention states that corners are identified and used for alignment. The examiner contends in the Examiner's Answer that corners can form edges. Initially, the appellant asserts that the examiner may not read material from the description contained within the specification to the present application for invention into the claims. Furthermore, subject matter defined by appealed claim 1 does not implement edges that could possibly be defined by the corners. Moreover, *Frazier et al.* provide no disclosure or suggestion for aligning multiple image using edges. *Frazier et al.* enhances edges within an image. The appellant, respectfully, asserts that there is a very basic, fundamental difference between using points to align images and enhancing a single image.

The Examiner further contends that the appellant does not refer the examiner to any part of the specification for the definition of "alignment", "aligning" or "aligned". The appellant would like to point out that the Summary of the Claimed Subject Matter with the Appeal Brief filed by the appellant is replete with designations within the specification to the present application for invention that define the terms "alignment", "aligning" and "aligned". Furthermore, the Summary of the Claimed Subject Matter is referenced on page 10 of the Appeal Brief filed by the appellant for definition of the terms "alignment", "aligning" and "aligned".

### **Appealed claim 2**

Examiner's Answer in the middle of page 7 asserts that Fig. 4c is the aligned image of and Fig. 4b within *Frazier et al.* The examiner is reading Laplacian operation as being equivalent to an alignment. The appellant, respectfully points out that to align a first image with a second image as defined by the appealed claims, the first and second images have to initially exist. Fig. 4c is created from a Laplacian operation on the image shown in Fig. 4b. Therefore, the examiner's arguments that Fig. 4c is the aligned image of Fig. 4b are a form of circular reasoning. It is not possible to align the first image (Fig. 4b within *Frazier et al.*) with the second image (Fig. 4c within *Frazier et al.*) to create the second image because the second image does not yet exist.

### **Appealed claim 3**

The Examiner's Answer provides no new arguments to appellant's arguments presented within the Appeal Brief.

### **Appealed claim 4**

The Examiner's Answer toward the bottom of page 7 does not contend that *Gupta et al.* disclose or suggest implementation of a RANSEC algorithm for "determining at least one of the first alignment and second alignment approximations includes applying the RANSAC algorithm" as defined by appealed claim 4. Note that this is tantamount to a rescinding of the rejection to appealed claim 4 contained in the Final Office Action. The Final Office Action, on page 7 states that *Gupta et al.* teaches implementation of a RANSEC algorithm for "determining at least one of the first alignment and second alignment approximations includes applying the RANSAC algorithm". The Examiner's Answer at the bottom of page 7 asserts that *Gupta et al.* at column 2, lines 31-46 teach a similar concept to the RANSAC algorithm. As discussed in the Appeal Brief filed by the appellant, *Gupta et al.* at column 2, lines 31-46 teach generation of transformation function and a subtraction algorithm that used in the digital subtraction angiography taught therein. There is no disclosure or suggestion for implementation of a RANSEC algorithm for "determining at least one of the first alignment and second alignment approximations includes applying the RANSAC algorithm" within *Gupta et al.*



### **Appealed claim 5**

The Examiner's Answer at the top of page 8 responds to appellant's arguments within the Appeal Brief by contending that *Gupta et al.* at columns 3 and 4, lines 63-67 and 1-6 teach that image tiles within two images can be rotated with respect to each other and that the mismatch arising because of such rotation can be corrected by the two-dimensional perspective transformation on user provided points. The appellant, respectfully, submits that correction of a mismatch arising out of a rotation of tiles is not equivalent or, or suggestive, of determining an alignment approximation. Note that the transformation discussed in *Gupta et al.* at columns 3, lines 64-67 is a two-dimensional transformation of the mask image tile to the neighborhood of the corresponding opacified image tile and not the image-to-image transform that the examiner has previously read on the first alignment defined by the appealed claims. There is no disclosure or suggestion for within *Gupta et al.* for determining the first alignment approximation using an approximation of at least one of a rotation component and a translation component in image space of the first and second images as recited by appealed claim 5.

As previously discussed, the Laplacian operation of *Frazier et al.* do not disclose or suggest aligning different images as asserted by the examiner in the Examiner's Answer.

### **Appealed claim 6**

The Examiner's Answer in the middle of page 8 responds to appellant's arguments within the Appeal Brief by contending that *Frazier et al.* teach edge suppression and *Gupta et al.* at col. 4, lines 47-59 state that the teachings therein are not limited to the embodiments disclosed. Note that there is nothing in the rejection contained within the Final Office Action or the arguments contained within the Examiner's Answer that a 3x3 homographic matrix is used for determining the second alignment approximation. The Examiner's Answer simply restates functions performed by the cited references and cites other prior art discussed within the cited references without touching on the subject matter for determining the second alignment approximation includes an approximation of components of a 3x3 homographic matrix defined by appealed claim 6. The rejection to appealed claim 6 amounts to no more than an assertion that it would have been obvious to a person of ordinary skill within the art without any substantiation. The appellant, respectfully, asserts that either of the cited references *Frazier et al.* or *Gupta et al.*,

either alone or in combination discloses or suggests the subject matter defined by appealed claim 6.

### **Appealed claim 7**

The Examiner's Answer in the middle of page 8 responds to appellant's arguments within the Appeal Brief by contending that *Frazier et al.* teach edge suppression and *Gupta et al.* at col. 4, lines 47-59 state that the teachings therein are not limited to the embodiments disclosed. Note that there is nothing in the rejection contained within the Final Office Action or the arguments contained within the Examiner's Answer that a 3x3 homographic matrix is used for determining the second alignment approximation. The Examiner's Answer simply restates functions performed by the cited references and cites other prior art discussed within the cited references without touching on the subject matter for determining the second alignment approximation includes an approximation of components of a 3x3 homographic matrix defined by appealed claim 7. The rejection to appealed claim 7 amounts to no more than an assertion that it would have been obvious to a person of ordinary skill within the art without any substantiation. The appellant, respectfully, asserts that either of the cited references *Frazier et al.* or *Gupta et al.*, either alone or in combination discloses or suggests the subject matter defined by appealed claim 7.

### **Appealed claim 8**

The Examiner's Answer towards the top of page 9 responds to appellant's arguments by stating that *Gupta et al.* at column 4, lines 41-46 the subject matter defined by appealed claim 8. The appellant points out that log subtracting of each pixel between images does not read on determining of at least one of the first and second alignment approximations includes identifying corners in the first and second images based on a determination of Minimum Intensity Changes at the corners. The appellant further points out that the Laplacian operation of *Frazier et al.* does not read on determining of at least one of the first and second alignment approximations includes identifying corners in the first and second images based on a determination of Minimum Intensity Changes at the corners.

### **Appealed claim 9**

The Examiner's Answer towards the middle of page 9 responds to appellant's arguments by stating that *Gupta et al.* at column 4, lines 13-19 teach that due to patient motion the grid in the opacified image is not square. Appealed claim 9 defines subject matter to detect motion of an object by comparing multiple images. *Gupta et al.* at column 4, lines 13-19 stating that due to patient motion the grid in the opacified image is not square does not read on detecting motion and the alignment of images, wherein the aligning the first and second images includes a determination of first alignment approximation based on distances.

### **Appealed claim 10**

The Examiner's Answer beginning on the bottom of page 9 responds to appellant's arguments by stating that *Gupta et al.* at col. 4, lines 44-46 teach alignment approximations based on distances between one or more points. The appellant, respectfully points out that *Gupta et al.* at col. 4, lines 41-46 is referring to transforming by interpolation. The interpolation occurs after the match point generation process (see col. 4, lines 13-18). Therefore, the various resolutions for the transformation process of *Gupta et al.* have already been completed. Appealed claim 10 defines subject matter for determining the first alignment approximation based on the first resolution being a low-resolution representation of the first and second images, and determining the second alignment approximation is based on the second resolution being a higher-resolution representation of the first and second images. Accordingly, col. 4, lines 44-46 of *Gupta et al.* can not possibly read on the subject matter defined by appealed claim 10.

### **Appealed claim 11**

The Examiner's Answer towards the middle of page 10 responds to appellant's arguments by stating that *Gupta et al.* at col. 1, lines 1-2 teach that X-ray images. The statement made in Examiner's Answer that the X-ray images are contained colors... the colors can be seen usually in X-ray images are gray, black and white have been inserted by the examiner and are not discussed by *Gupta et al.* The appellant asserts that the insertion of this language amounts to conjecture and hearsay. Simply put, gray, black and white are not colors. Furthermore, appealed claim 11 defines subject matter for identifying the motion of objects in multiple images

based on color matching. This subject matter is clearly not disclosed or suggested by the cited references *Frazier et al.* or *Gupta et al.*, either alone or in combination.

#### **Appealed claim 12**

The Examiner's Answer towards the bottom of page 10 responds to appellant's arguments by stating that *Gupta et al.* do not specify movement of an object. The examiner then states it is obvious for a person skilled in the art to that X-ray images are taken from a living patient. The appellant, respectfully, submits that the foregoing statement does not address the subject matter defined by appealed claim 12. The examiner states for example X-ray used in MRI in a hospital. The appellant, respectfully, submits that the foregoing statement amount to conjecture and hearsay and is not based upon any prior art reference or rejection that forms part of the record for the present application for invention.

#### **Appealed claim 13**

The Examiner's Answer at the bottom of page 10 responds to appellant's arguments by stating that *Gupta et al.* do not specify movement of an object. The examiner then states it is obvious for a person skilled in the art to that X-ray images are taken from a living patient. The appellant, respectfully, submits that the foregoing statement does not address the subject matter defined by appealed claim 13. The examiner states for example X-ray used in MRI in a hospital. The appellant, respectfully, submits that the foregoing statement amount to conjecture and hearsay and is not based upon any prior art reference or rejection that forms part of the record for the present application for invention.

#### **Appealed claim 14**

The Examiner's Answer beginning towards the top of page 11 responds to appellant's arguments by stating that *Gupta et al.* at col. 4, lines 44-46 teach alignment approximations based on distances between one or more points. The appellant, respectfully points out that *Gupta et al.* at col. 4, lines 41-46 is referring to transforming by interpolation. The interpolation occurs after the match point generation process (see col. 4, lines 13-18). Therefore, the various resolutions for the transformation process of *Gupta et al.* have already been completed. Appealed claim 14 defines subject matter for determining the first alignment approximation

based on the first resolution being a low-resolution representation of the first and second images, and determining the second alignment approximation is based on the second resolution being a higher-resolution representation of the first and second images. Accordingly, col. 4, lines 44-46 of *Gupta et al.* can not possibly read on the subject matter defined by appealed claim 14.

#### **Appealed claim 16**

The Examiner's Answer towards the bottom of page 11 responds to appellant's arguments by making statements that so not refer to any rejection or prior art reference that form part of the record for the present application for invention. Therefore, these statements are hearsay and conjecture. Appealed claim 16 defines subject matter of a memory for storing a representation of a target image, and wherein the processor is further configured to identify a target within the satellite images, based on the representation of the target image. There is no rejection based on any prior art reference within the record for the foregoing subject matter.

#### **Appealed claim 17**

The Examiner's Answer beginning towards the top of page 12 responds to appellant's arguments by stating that black and white are made of many different wavelengths of colors. The appellant asserts that black and white are not colors.

#### **Appealed claim 18**

The Examiner's Answer beginning towards the middle of page 12 responds to appellant's arguments by stating that Figures 4a, 4b and 4c within *Frazier et al.* represent a set of images. Appealed claim 18 defines subject matter for determining a location of the object in each image of the set of aligned images, and determining a movement of the object by comparing the location of the object in each image. Fig. 4b within *Frazier et al.* is an enlargement of Fig. 4a. Fig. 4c within *Frazier et al.* is the result of a Laplacian operation on Fig. 4b. Figures 4a, 4b and 4c within *Frazier et al.* represent the same image that is either enlarged on undergone a transformation via Laplacian operation. It is not possible to detect movement of an object in multiple images if all the images are the same image used over and over again. Simply put, *Frazier et al.* can not be read on the subject matter defined by appealed claim 18 for determining

a location of the object in each image of the set of aligned images, and determining a movement of the object by comparing the location of the object in each image.

### **Appealed claim 19**

The Examiner's Answer beginning towards the middle of page 12 responds to appellant's arguments by stating that *Gupta et al.* at columns 3, lines 63-67 teach that image tiles within two images can be rotated with respect to each other and that the mismatch arising because of such rotation can be corrected by the two-dimensional perspective transformation on user provided points. The appellant, respectfully, submits that correction of a mismatch arising out of a rotation of tiles is not equivalent or, or suggestive, of determining an alignment approximation. Note that the transformation discussed in *Gupta et al.* at columns 3, lines 64-67 is a two-dimensional transformation of the mask image tile to the neighborhood of the corresponding opacified image tile and not the image-to-image transform that the examiner has previously read on the first alignment defined by the appealed claims. There is no disclosure or suggestion for within *Gupta et al.* for determining the first alignment approximation using an approximation of at least one of a rotation component and a translation component in image space of the first and second images as recited by appealed claim 19.

### **Appealed claim 20**

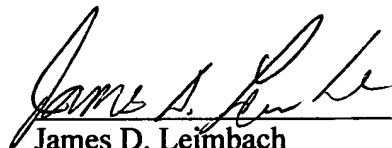
The Examiner's Answer at the top of page 13 responds to appellant's arguments within the Appeal Brief by contending that *Frazier et al.* teach edge suppression and *Gupta et al.* at col. 4, lines 47-59 state that the teachings therein are not limited to the embodiments disclosed. Note that there is nothing in the rejection contained within the Final Office Action or the arguments contained within the Examiner's Answer that a 3x3 homographic matrix is used for determining the second alignment approximation. The Examiner's Answer simply restates functions performed by the cited references and cites other prior art discussed within the cited references without touching on the subject matter for determining the second alignment approximation includes an approximation of components of a 3x3 homographic matrix defined by appealed claim 20. The rejection to appealed claim 20 amounts to no more than an assertion that it would have been obvious to a person of ordinary skill within the art without any substantiation. The appellant, respectfully, asserts that either of the cited references *Frazier et al.* or *Gupta et al.*,

either alone or in combination discloses or suggests the subject matter defined by appealed claim 20.

**Conclusion**

In summary, the examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 1-20 should be reversed.

Respectfully submitted,

  
\_\_\_\_\_  
James D. Leimbach  
Attorney for Appellants  
Registration No. 34,374

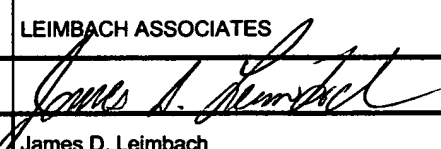
Telephone: 585-381-9983  
Facsimile: 585-381-9983

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

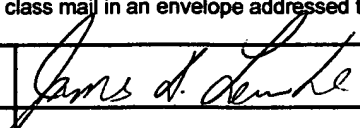
<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing) JUN 21 2005 PATENT & TRADEMARK OFFICE	Application Number	09/854,119	
	Filing Date	05/11/2001	
	First Named Inventor	Miroslav Trajkovic	
	Art Unit	2672	
	Examiner Name	Javid A. Amini	
Total Number of Pages in This Submission	16	Attorney Docket Number	US010240

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<b>Remarks</b> Enclosed is a Reply Brief filed in response to the Examiner's Answer dated April 19, 2005.	

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	LEIMBACH ASSOCIATES		
Signature			
Printed name	James D. Leimbach		
Date	June 18, 2005	Reg. No.	34,374

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name	James D. Leimbach	Date	June 18, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.